

IN THE CLAIMS

Please amend the following claims:

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1 1. (Amended Twice) A method for document classification comprising:
2 analyzing textual content and graphical content of a previously unclassified
3 electronic document to determine a textual profile and a graphical profile of the
4 electronic document;
5 generating a classification of the document based on the textual profile and the
6 graphical profile; and
7 storing the electronic document in a pre-existing directory structure based on the
8 classification.

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1 2. The method defined in Claim 1 where the directory structure comprises a
2 hierarchy of documents mirroring in a similar fashion an organization in a pre-existing
3 memory storing documents.

1 3. The method defined in Claim 2 when the pre-existing memory comprises
2 a hard disk.

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1 4. (Amended) The method of claim 1, wherein analyzing textual content of
2 an electronic document comprises:
3 determining characteristic words of the document;
4 determining a frequency for each characteristic word; and

5 building a frequency table based on the frequency associated with each
C\ 6 characteristic word.

1 5. (Amended) The method of claim 1, wherein analyzing graphical content
2 of an electronic document comprises:
3 determining a point set corresponding to the electronic document, wherein points
4 of the point set correspond to end points of lines;
5 determining a density of points within the point set;
6 generating a document profile based, at least in part, on the density of points
7 within the point set.

C\ 1 6. The method of claim 1, wherein generating a classification of the
2 document based on the textual and graphical properties comprises combining results from
3 the textual and graphical analysis using a Borda Count.

1 7. The method defined in Claim 1 further comprising building the pre-
2 existing directory structure by building hierarchy of documents based on a user's hard
3 drive.

83 C\ 1 8. (Amended) The method defined in Claim 1 further comprising building
2 the pre-existing directory structure by extracting graphical and text features from
3 documents in a directory-based memory to obtain a document classification profile of
4 each subdirectory in the directory-based memory.

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1 9. (Amended Twice) A software product including a machine-readable
2 medium having stored thereon sequences of instructions, which, when executed by a
3 processor, cause the processor to:

4 analyze textual content and graphical content of a previously unclassified
5 electronic document to determine a textual profile and a graphical profile of the
6 electronic document;

7 generate a classification of the document based on the textual profile and the
8 graphical profile; and

9 store the electronic document in a pre-existing directory structure based on the
10 classification.

33
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1 10. (Amended) The machine-readable medium of claim 9, wherein the
2 sequences of instructions that cause the processor to analyze textual content of an
3 electronic document further comprise sequences of instructions that cause the processor
4 to:
5 determine characteristic words of the document;
6 determine a frequency for each characteristic word; and
7 build a frequency table based on the frequency associated with each characteristic
8 word.

1 11. (Amended Twice) The machine-readable medium of claim 9, wherein the
2 sequences of instructions that cause the processor to analyze graphical content of an
3 electronic document further comprise sequences of instructions that cause the processor
4 to:

C1
5 determine a point set corresponding to the electronic document, wherein points of
6 the point set correspond to end points of lines;
7 determine a density of points within the point set;
8 generate a document profile based, at least in part, on the density of points within
9 the point set.

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1 12. The machine-readable medium of claim 9, wherein the sequences of
2 instructions that cause the processor to generate a classification of the document based on
3 the textual and graphical properties further comprises sequences of instructions that cause
4 the processor to combine results from the textual and graphical analysis using a Borda
5 Count.

B4 sub C1
1 13. (Amended Twice) A method for document classification comprising:
2 analyzing documents in a pre-existing document directory structure to determine a
3 document classification profile of the pre-existing document directory structure;
4 generating a mirror directory structure based on the pre-existing document
5 directory structure;
6 receiving a previously unclassified electronic document;
7 analyzing textual content and graphical content of the electronic document to
8 determine a textual profile and a graphical profile of the electronic document; and
9 placing the electronic document in the mirror directory structure based on the
10 document classification profile of the pre-existing document directory structure, the
11 textual profile of the document, and the graphical profile of the document.

21

1 14. The method of claim 13, wherein analyzing the pre-existing document
2 directory structure further comprises:
3 recursively descending the pre-existing document directory structure;
4 generating a list of directories in the pre-existing document directory structure;
5 examining files in directories of the pre-existing document directory structure to
6 determine content; and
7 examining the content of the files to determine document classification profile of
8 the directories in the pre-existing document directory structure.

1 15. The method of claim 13 wherein the pre-existing document directory
2 structure is a hard disk directory structure.

1 16. The method of claim 13 wherein generating a mirror directory structure
2 based on the pre-existing document directory structure comprises generating a document
3 directory structure having a set of directories and relationships equivalent to the pre-
4 existing document directory structure.

1 17. The method of claim 13 wherein placing the electronic document in the
2 mirror directory structure comprises:
3 determining a primary directory in the pre-existing document directory structure
4 in which the document should be placed based on the document classification profile of
5 the pre-existing document directory structure; and

6 storing the document in a primary corresponding directory in the mirror directory
7 structure that corresponds to the primary directory in the pre-existing document directory
8 structure.

1 18. The method of claim 17 further comprising:
2 determining a secondary directory in the pre-existing document directory in which
3 the document should be placed based on the document classification profile of the pre-
4 existing document directory structure; and
5 storing the document in a corresponding secondary directory in the mirror
6 directory structure that corresponds to the secondary directory in the pre-existing
7 document directory structure.

1 19. (Amended Twice) A computer-readable medium having stored thereon
2 sequences of instructions which, when executed by a processor, cause the processor to:
3 analyze a pre-existing document directory structure to determine a document
4 classification profile of the pre-existing document directory structure;
5 generate a mirror directory structure based on the pre-existing document directory
6 structure;
7 receive a previously unclassified electronic document;
8 analyze textual content and graphical content of the electronic document to
9 determine a textual profile and a graphical profile of entire electronic document; and
10 place the electronic document in the mirror directory structure based on the
11 document classification profile of the pre-existing document directory structure, the
12 textual profile of the document, and the graphical profile of the document.

20. The computer-readable medium of claim 19, wherein the sequences of instructions that cause the processor to analyze a pre-existing document directory structure to determine an organization of the pre-existing document directory structure further comprise sequences of instructions that cause the processor to:

- recursively descending the pre-existing document directory structure;
- generating a list of directories in the pre-existing document directory structure;
- examining files in directories of the pre-existing document directory structure to determine content; and
- examining the content of the files to determine the organization of the directories in the pre-existing document directory structure.

21. The computer-readable medium of claim 19, wherein the sequences of instructions that cause the processor to generate a mirror directory structure further comprise sequences of instructions that cause the processor to generate a document directory structure having a set of directories and relationships equivalent to the pre-existing document directory structure.

22. The computer-readable medium of claim 19, wherein the sequences of instructions that cause the processor to place a document in the mirror directory structure further comprise sequences of instructions that cause the processor to:

- determine a primary directory in the pre-existing document directory structure in which the document should be placed based on the document classification profile of the pre-existing document directory structure; and

7 store the document in a primary corresponding directory in the mirror directory
8 structure that corresponds to the primary directory in the pre-existing document directory
9 structure.

1 23. The computer-readable medium of claim 22 further comprising sequences
2 of instructions that cause the processor to:

3 determine a secondary directory in the pre-existing document directory in which
4 the document should be placed based on the document classification profile of the pre-
5 existing document directory structure; and

6 store the document in a corresponding secondary directory in the mirror directory
7 structure that corresponds to the secondary directory in the pre-existing document
8 directory structure.

1 24. (Amended Twice) An apparatus comprising:

2 means for analyzing a pre-existing document directory structure to determine
3 document classification profile of the pre-existing document directory structure;

4 means for generating a mirror directory structure based on the pre-existing
5 document directory structure;

6 means for receiving a previously unclassified electronic;

7 means for analyzing textual content and graphical content of the electronic
8 document to determine a textual profile and a graphical profile of the electronic
9 document; and

10 means for placing the electronic document in the mirror directory structure based
11 on the document classification profile of the pre-existing document directory structure,
12 the textual profile of the document, and the graphical profile of the document.

U 1 25. The apparatus of claim 24, wherein means for analyzing the pre-existing
2 document directory structure further comprises:
3 means for recursively descending the pre-existing document directory structure;
4 means for generating a list of directories in the pre-existing document directory
5 structure;
6 means for examining files in directories of the pre-existing document directory
7 structure to determine content; and
8 means for examining the content of the files to determine document classification
9 profile of the directories in the pre-existing document directory structure.

1 26. The apparatus of claim 24, wherein means for generating a mirror
2 directory structure comprises means for generating a document directory structure having
3 a set of directories and relationships equivalent to the pre-existing document directory
4 structure.

1 27. The apparatus of claim 24, wherein means for placing a document in the
2 mirror directory structure comprises:
3 means for determining a primary directory in the pre-existing document directory
4 structure in which the document should be placed based on the document classification
5 profile of the pre-existing document directory structure; and

6 means for storing the document in a primary corresponding directory in the mirror
7 directory structure that corresponds to the primary directory in the pre-existing document
8 directory structure.

1 28. The apparatus of claim 27 further comprising:

2 means for determining a secondary directory in the pre-existing document
3 directory in which the document should be placed based on the document classification
4 profile of the pre-existing document directory structure; and

5 means for storing the document in a corresponding secondary directory in the
6 mirror directory structure that corresponds to the secondary directory in the pre-existing
7 document directory structure.

1 29. (Amended Twice) A document processing system comprising:

2 a document scanning device;

3 a document storage device coupled to the document scanning device, wherein the
4 document storage device is organized as a document directory structure having multiple
5 directories, and further wherein the document storage device has a mirror directory
6 structure having multiple directories organized based on the document directory
7 structure; and

8 a processor coupled to the document scanning device and to the document storage
9 device, wherein the processor analyzes content of a document scanned by the document
10 scanning device, determines a directory in the mirror directory structure in which the
11 document should be placed based on the analysis of document content and a document

12 classification profile of the document directory structure, and stores the document in the
13 directory in the mirror directory structure.

1 30. The document processing system of claim 29 wherein the processor is
2 operable to determine a secondary directory in the document directory structure in which
3 the document should be placed and to store the document in a corresponding secondary
4 directory in the mirror directory structure.

1 31. (Amended Twice) The document processing system of claim 29 wherein
2 the processor analyzes files stored in the document directory structure to determine
3 content and generates the document classification profile of the document directory
4 structure based on the analysis.

1 32. The document processing system of claim 29 wherein the document is
2 analyzed based on image and textual content.